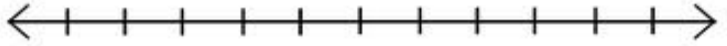


Algebra Post-Assessment

Name _____

Graph and label each of these numbers on the number line provided:

$$\left\{ 0, -2, \frac{3}{4}, -0.8, |-4|, \sqrt{9}, -3\frac{2}{5}, \pi \right\}$$


Perform the following operations, simplifying where necessary:

$$7 - (-10) =$$

$$-5 \cdot 20 =$$

$$2^5 =$$

$$6\sqrt{2} \cdot \sqrt{2} =$$

$$\frac{1}{3} + \frac{7}{8} =$$

$$\frac{6}{5} \cdot \frac{3}{8} =$$

$$\frac{9.6 \times 10^4}{3.2 \times 10^{-2}} =$$

$$\frac{0}{12} =$$

$$-2[5(6 \div 3) + 8 - 4^2] =$$

$$(3n - 1)^2 =$$

What is the greatest common factor of the numbers 20 and 48?

- a. 2
- b. 3
- c. 4
- d. 6
- e. none of the above

Which of the following numbers is *not* prime?

- a. 17
- b. 41
- c. 71
- d. 77
- e. none of the above

What is the correct prime factorization of 36?

- a. $3 \cdot 6$
- b. $6 \cdot 6$
- c. $2 \cdot 2 \cdot 3 \cdot 3$
- d. $2 \cdot 3 \cdot 4 \cdot 6 \cdot 9 \cdot 12 \cdot 18$
- e. none of the above

Factor this quadratic function into two binomials, then find the two x-intercepts and one y-intercept.

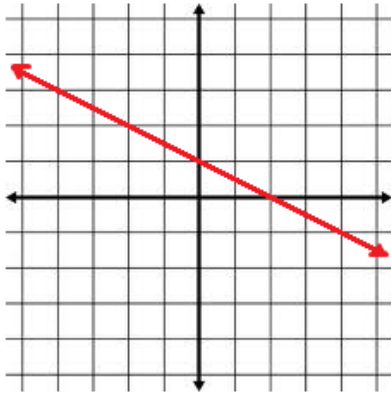
$$f(x) = x^2 + 6x - 16$$

Find the point (x, y) where these two linear equations intersect.

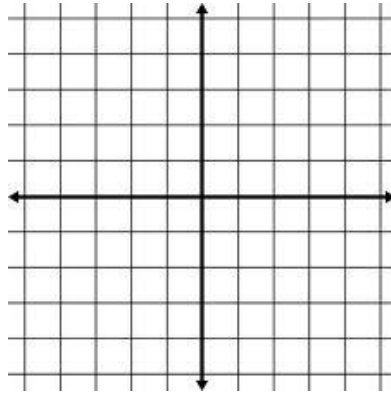
$$\begin{aligned} 5x + 2y &= 8 \\ -2x + y &= -5 \end{aligned}$$

Algebra Post-Assessment (page 2)

Write the equation of the graphed line in slope-intercept form.



Graph this linear inequality: $2x - 3y < 6$
(Remember to indicate all solution points)

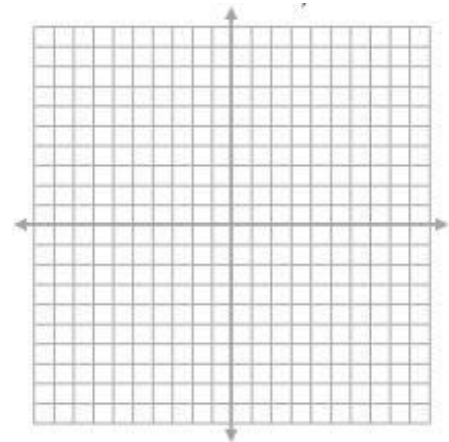


Calculate the slope and the distance of the line between these two points: $A(-2, -1)$ $B(0, 4)$

-- If there was a line perpendicular to this line above, what would be its slope?

Fill in the table of values and then graph this function: $g(x) = \frac{x^3}{2}$

x	-3	-2	-1	0	1	2	3
$g(x)$							

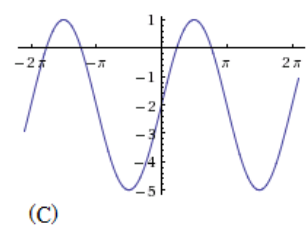
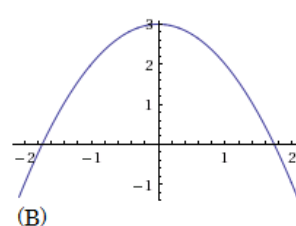
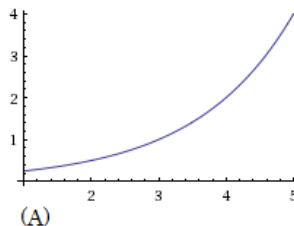


Match each graph to its corresponding function:

_____ $f(x) = 2^{(x-3)}$

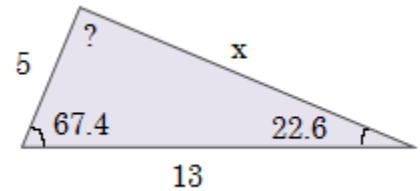
_____ $g(x) = 3 \sin(x) - 2$

_____ $h(x) = -x^2 + 3$

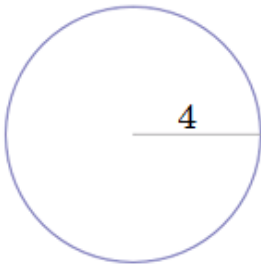


Algebra Post-Assessment (page 3)

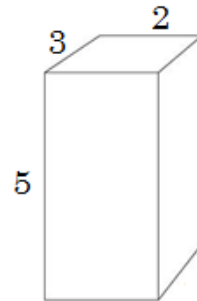
Calculate the unknown angle and side length of this triangle.



Calculate the circumference and area of this circle. [Remember that $\pi \approx 3.14$ or $22/7$]



Calculate the volume and surface area of this rectangular prism.



Translate the following numerical expression into an English statement (spell all numbers 10 --> "ten"):

$$2x^3 + \frac{3}{4}y \geq \sqrt{26}$$



There are several ways to score points in American football.

The most common ways are:

Field goal (3 pts): to kick the ball through the upright posts

Touchdown (7 pts total): to run/pass the ball into the endzone then kick an extra point
(If you are familiar with football, we will ignore 2-point safeties and conversions here.)

Using only point combinations of a field goal (3 points) and a touchdown (7 points),

What is the *highest* point total a football team *cannot* score?

[ex. a team can't score 5 points, but they can score 6 points with two field goals]